THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	
Reinhard Leigraf, et al.	)	Group: 1713
Serial No.: 10/587,617	)	
Filed: July 27, 2006	)	
Title: METHOD AND SYSTEM FOR PRODUCING A WOOD-FREE COATED MATTE OR SEMI-MATTE PAPER WEB	)	Examiner: Tran, Binh X.

APPEAL BRIEF OF APPELLANTS

MS Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is taken from the decision of the Examiner, dated May 12, 2010, finally rejecting claims 26-30, 32-38 and 52; and the Advisory Action dated July 22, 2010. Appellants timely filed a Notice of Appeal in this matter on August 5, 2010, together with a Pre-Appeal Brief Request for Review from which a decision was entered into the record on September 3, 2010. This brief is being filed within one month of the entering of the Notice of Panel Decision from the Pre-Appeal Brief Review.

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I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Voith Paper Patent GMVH to whom this application was assigned by Appellants. According to the assignment document recorded with the U.S. Patent and Trademark Office on July 27, 2006 at Reel No. 018157, Frame 0493.

II. RELATED APPEALS AND INTERFERENCES

No related Appeals or Interferences are known to the Appellants.

III. STATUS OF CLAIMS

Pending: 26-30, and 32-52.

Canceled: 1-25, and 31.

Allowed: None.

Objected To: None.

Rejected: 26-30, 32-38, and 52.

Withdrawn from Consideration: 39-51.

On Appeal: 26-30, 32-38, and 52.

A clean copy of claims 26-30, and 32-52, all the pending claims, is included as an Appendix to this brief.

IV. STATUS OF AMENDMENTS

An amendment was filed in this case after the final rejection and the amendment was entered by the Examiner. The Examiner has indicated that the After-Final amendment overcame the 35 USC §112 rejections.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The pending and appealed independent claims are reproduced below in annotated form, with reference to the specification by page and line numbers and to the drawings by reference characters.

ANNOTATED CLAIM 26: A method for the production of a wood-free coated, matt or semi-matt paper web (1), comprising the steps of:

precalendering (page 7, lines 3-9) the paper web (1) using at least one apparatus for precalendering (11);

coating (page 7, lines 3-9) at least one side of the paper web (1) by using at least one apparatus for applying one of a liquid and pasty application medium (12); and

drying (page 7, lines 3-9) the paper web (1) using at least one apparatus for drying the paper web (13), the method thereby creating the wood-free coated paper web (1) with a roughness level expressed in µm PPS (Parker Print Surf) and a gloss value expressed in % TAPPI 75° (Specular Gloss of Paper and Paperboard at 75°), said roughness level and said gloss value in combination having values that lie within a triangularly shaped region defined by a first point, a second point, and a third point, said first point being 0.8 µm roughness level and 3% gloss value, said second point being 0.8 µm roughness level and 35% gloss value, said third point being 3.9 µm roughness level and 3% gloss value (page 9, lines 13-17 and Fig. 4).

ANNOTATED CLAIM 52: A method for producing a wood-free, coated, matte or semi-matte paper web (1), comprising the steps of:

precalendering (page 7, lines 3-9) the paper web (1) by means of at least one device for precalendering (11);

coating (page 7, lines 3-9) the paper web (1) after the precalendering step on at least one side of the paper web (1) by means of at least one device for the application of liquid or pasty application medium (12); and

drying (page 7, lines 3-9) the paper web (1) by means of at least one device for drying (13), after the paper web (1) has passed through said at least one device for the application of liquid or pasty application medium in a running direction (L) of the paper web (1), the paper web (1) is no longer led through any further smoothing or calendering device, and the wood-free coated paper web (1) is produced having a roughness in the range from 0.8-3.9 µm PPS (Parker Print Surf) and a gloss in the range from 3-35% TAPPI 75° (Specular Gloss of Paper and Paperboard at 75°) (page 7, lines 3-9 and Fig. 4).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 26-29, 32-34, and 37 are patentable under 35 USC § 103(a) over International Publication WO 02/103109 (Korhonen) in view of US Patent Application Publication No. 2003/0178165 (Bobsein, et al.).

B. Whether claims 30, 35, 36, 38, and 52 are patentable under 35 U.S.C. § 103(a) over Korhonen, in view of Bobsein, et al. and in further view of US Patent Application Publication No. 2002/0117277 (Johnson, et al.).

VII. ARGUMENT

A. CLAIMS 26-29, 32-34, and 37 ARE PATENTABLE UNDER 35 U.S.C. § 103(a).

In the final Office Action dated May 12, 2010, claims 26-29, 32-34, and 37 were rejected under 35 USC § 103(a) as being unpatentable over Korhonen in view of Bobsein, et al. However, Appellants submit that claims 26-29, 32-34, and 37 are neither taught, disclosed, nor suggested by the prior art references; alone or in combination, and that the claims are therefore in condition for allowance.

1. The teaching of the cited references.

Korhonen discloses a method for the manufacture of LWCR printing paper that is coated once. There is a pre-calender 500, a coating station 600, and a drying section 700 (abstract and page 23, lines 1-11). The LWCR printing paper can be manufactured by a film coating method or a non-contact coating method. The PPS-s10 roughness of the base paper shall be below 3.5 µm (column 4, lines 1-14).

Bobsein, et al. disclose a paper having an improved print quality and method of making the same including having a sheet gloss, as defined in table 3, of approximately 30% (paragraph 54 and 62).

2. Korhonen and Bobsein, et al. in Combination Do Not Teach, Disclose, or Suggest the Present Invention

In contrast to Korhonen and Bobsein, et al., claim 26 recites in part:

> said roughness level and said gloss value in combination having values that lie within a triangularly shaped region defined by a first point, a second point, and a third point, said first point being 0.8 µm roughness level and 3% gloss value, said

> second point being 0.8 µm roughness level and 35% gloss value, said third point being 3.9 µm roughness level and 3% gloss value.

(Emphasis added). Appellants submit that such an invention is neither taught, disclosed, nor suggested by Korhonen, Bobsein, et al. or any of the other cited references, alone or in combination, and includes distinct advantages thereover.

Korhonen discloses a method for the manufacture of LWCR printing paper that is coated once and has a PPS-ST roughness below 3.5 µm. Bobsein, et al. disclose a paper having a sheet gloss of approximately 30%. In contrast, Appellants' claimed invention is a method that specifically results in wood-free coated paper with a combination of gloss and roughness that lies within the triangularly shaped range of the independent claim.

Appellants' invention surprisingly accomplishes a combination of gloss and roughness that is not obtained by other methods. Furthermore, it is the combination of the two qualities that establish Appellants' method as producing a paper with two desirable qualities in a range accomplished by the steps outlined in the independent claim. **The cited prior art does include values for roughness and gloss, but in every case where these values are associated with each other, they lie outside of the area claimed by Appellants.** The combination of the cited references does not provide any disclosure where associated roughness and gloss values fall within Appellants' claimed area. This lack of disclosure in the cited references underscores the novelty of Appellants' method.

Table 2 of Bobsein, et al, is instructive to show that roughness (smoothness) and gloss are related and that this table illustrates particulars of the paper made using the Bobsein, et al. method. However, **the teaching that roughness and gloss are related underscores that the association of gloss and roughness cannot simply be declared to exist by finding two**

references that teach one aspect and not the combination of the attributes claimed by the Appellants. Therefore, Korhonen, Bobsein, et al., and any of the other cited references, alone in combination, fail to teach, disclose, or suggest a roughness level and a gloss value in combination having values that lie within a triangularly shaped region defined by a first point, a second point, and a third point, the first point being 0.8 μm roughness level and 3% gloss value, the second point being 0.8 μm roughness level and 35% gloss value, and the third point being 3.9 μm roughness level and 3% gloss value, as recited in claim 26.

The present invention has several advantages, including the ability to produce paper with a combination of roughness and gloss value that is uniquely obtained by the steps of the method utilized by Appellants. For the foregoing reasons, Appellants submit that claim 26, and claims 27-29, 32-34, and 37 depending therefrom, are in condition for allowance, the allowance of which being hereby respectfully requested.

B. CLAIMS 30, 35, 36, 38, and 52 ARE PATENTABLE UNDER 35 U.S.C. § 103(a).

In the final Office Action dated May 12, 2010, claims 30, 35, 36, 38 and 52 were rejected under 35 USC § 103(a) as being unpatentable over Korhonen, in view of Bobsein, et al. and in further view of Johnson, et al. However, claims 30, 35, 36 and 38 depend from claim 26, which is in condition for allowance for the reasons given above. Accordingly, Appellants submit that claims 30, 35 36, and 38 are in condition for allowance, the allowance of which being hereby respectfully requested. Appellants submit that claim 52 is neither taught, disclosed, nor suggested by the prior art references; alone or in combination, and that the claim is therefore in condition for allowance.

1. The teaching of the cited references.

Korhonen, and Bobsein, et al. are discussed above.

Johnson et al. disclose a multi-layer printable wear resistant paper (Figs. 1 and 3). Figs. 1 and 3 are both schematic diagrams of a papermaking process (paragraphs 11 and 13).

2. Korhonen, Bobsein, et al. and Johnson et al. in Combination Do Not Teach, Disclose, or Suggest the Present Invention

In contrast to Korhonen and Bobsein, et al., claim 52 recites in part:

> drying the paper web by means of at least one device for drying, after the paper web has passed through said at least one device for the application of liquid or pasty application medium in a running direction (L) of the paper web, the paper web is no longer led through any further smoothing or calendering device, and the wood-free coated paper web is produced having a roughness in the range from 0.8-3.9 µm PPS (Parker Print Surf) and a gloss in the range from 3-35% TAPPI 75° (Specular Gloss of Paper and Paperboard at 75°).

(Emphasis added). Appellants submit that such an invention is neither taught, disclosed, nor suggested by Korhonen, Bobsein, et al. or any of the other cited references, alone or in combination, and includes distinct advantages thereover.

Korhonen discloses a method for the manufacture of LWCR printing paper that is coated once and has a PPS-ST roughness below 3.5 µm. Bobsein, et al. disclose a paper having a sheet gloss of approximately 30%. Johnson et al. disclose a multi-layer printable wear resistant paper, with Figs. 1 and 3 both being schematic diagrams of a papermaking process. These figures show the web hanging in midair, which infers that some further processing will follow. These figures and the cited prior art fail to recite the claimed negative limitation. Appellants' claimed invention is a method that specifically excludes the paper web from being led through any further smoothing or calendering device once the paper web has been coated. **This is a negative**

limitation that is discussed in the specification as originally filed and it is used to exclude the prior art as provided for in MPEP 2173.05(i). Full weight of this negative limitation should be given in the evaluation of the claim. The disclosure of this negative limitation is not included in any of the cited references, nor does the combination of the cited references cause the negative limitation to arise. Therefore, Korhonen, Bobsein, et al., Johnson et al. and any of the other cited references, alone in combination, fail to teach, disclose, or suggest the step of drying the paper web by means of at least one device for drying, after the paper web has passed through the at least one device for the application of liquid or pasty application medium in a running direction (L) of the paper web, the paper web is no longer led through any further smoothing or calendering device, and the wood-free coated paper web is produced having a roughness in the range from 0.8-3.9 μm PPS (Parker Print Surf) and a gloss in the range from 3-35% TAPPI 75° (Specular Gloss of Paper and Paperboard at 75°), as recited in claim 52.

The present invention has several advantages, including the ability to produce paper that once coated does not pass through any smoothing or calendering device with the paper then having a combination roughness and gloss value as specified in the claim. For the foregoing reasons, Appellants submit that claim 52 is in condition for allowance, the allowance of which being hereby respectfully requested.

CONCLUSION

The arguments above are further to the arguments previously presented by the Appellants during the prosecution of this patent application. The claims, which are subject to rejections in the final Office Action, are considered allowable for the reasons contained herein and those previously presented. For the foregoing reasons, Appellants submit that claims 26-30, 32-38 and

52 are in condition for allowance, the allowance of which is respectfully requested. The withdrawn claims may be canceled to allow the application to issue as a patent.

In the event Appellants have overlooked the need for an extension of time, additional extension of time, payment of fee, or additional payment of fee, Appellants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR IP, P.C.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

1-25 (cancelled)

26. A method for the production of a wood-free coated, matt or semi-matt paper web, comprising the steps of:

precalendering the paper web using at least one apparatus for precalendering;

coating at least one side of the paper web by using at least one apparatus for applying one of a liquid and pasty application medium; and

drying the paper web using at least one apparatus for drying the paper web, the method thereby creating the wood-free coated paper web with a roughness level expressed in µm PPS (Parker Print Surf) and a gloss value expressed in % TAPPI 75° (Specular Gloss of Paper and Paperboard at 75°), said roughness level and said gloss value in combination having values that lie within a triangularly shaped region defined by a first point, a second point, and a third point, said first point being 0.8 µm roughness level and 3% gloss value, said second point being 0.8 µm roughness level and 35% gloss value, said third point being 3.9 µm roughness level and 3% gloss value .

27. The method of claim 26, wherein said coating step includes a step of coating the paper web on a first side by way of an other apparatus for applying said one of a liquid and pasty application medium prior to said precalendering step.

28. The method of claim 27, wherein said other apparatus is one of a film coating device and a curtain coating device.

29. The method of claim 26, wherein said coating step is carried out once on both sides of the paper web prior to said precalendering step, said at least one apparatus for applying one of a liquid and pasty application medium being a film coating device.

30. The method of claim 26, wherein said at least one apparatus for applying one of a liquid and pasty application medium includes a first apparatus and a second apparatus each being a curtain coating device.

31. (Canceled)

32. The method of claim 27, further comprising the step of conveying the paper web through at least one film press prior to said coating step.

33. The method of claim 26, wherein said apparatus for precalendering is one of a shoe calender with at least one extended nip and a smoothing unit, a soft calender with at least one nip and a super calender with at least one nip.

34. The method of claim 33, wherein said at least one apparatus for applying one of a liquid and pasty application medium includes a first apparatus that coats a first side of the paper web, said first apparatus being a curtain coating device.

35. The method of claim 34, wherein said at least one apparatus for applying one of a liquid and pasty application medium includes a second apparatus that coats a second side of the paper web, said second apparatus being a curtain coating device.

36. The method of claim 35, further comprising the step of drying the paper web after said second side of the paper web is coated.

37. The method of claim 26, further comprising the step of conveying the paper web through at least one film press prior to said precalendering step.

38. The method of claim 26, wherein the paper web is not conveyed through any smoothing apparatus nor is the paper web conveyed through any calendering apparatus after the paper web has been coated by said at least one apparatus for applying one of a liquid and pasty application medium in a running direction (L).

39. (Withdrawn) An arrangement for the production of a wood-free coated, matte or semi-matte paper web, comprising:

at least one precalendering apparatus for precalendering the paper web;

at least one coating apparatus for applying one of a liquid and pasty application medium to the paper web; and

at least one dryer for drying the paper web.

40. (Withdrawn) The arrangement of claim 39, wherein said at least one coating apparatus includes a first coating apparatus and a second coating apparatus, said at least one dryer including a first dryer and a second dryer, the paper web moving in a running direction L, said second coating apparatus and said second dryer being upstream from said at least one precalendering apparatus in said running direction L.

41. (Withdrawn) The arrangement of claim 40, wherein said at least one precalendering apparatus includes at least one of a smoothing unit, a soft calender with at least one nip, a super calender with at least one nip and a shoe calender with at least one extended nip.

42. (Withdrawn) The arrangement of claim 41, wherein said at least one precalendering apparatus is said smoothing unit having two hard-cast rollers, which together form a nip.

43. (Withdrawn) The arrangement of claim 41, wherein said at least one precalendering apparatus is said soft calender having one hard-cast roller and one roller equipped with a plastic covering, which together form a nip.

44. (Withdrawn) The arrangement of claim 41, wherein said at least one precalendering apparatus is said super calender having one hard-cast roller and one paper roller, which together form a nip.

45. (Withdrawn) The arrangement of claim 39, wherein said at least one coating apparatus is one of which makes contact with the paper web and one which works in a non-contact mode.

46. (Withdrawn) The arrangement of claim 45, wherein said at least one coating apparatus is one of a jet flow coating device and a film coating device.

47. (Withdrawn) The arrangement of claim 45, wherein said at least one coating apparatus is one of a curtain coating device and a spray coating device.

48. (Withdrawn) The arrangement of claim 39, wherein said at least one dryer is at least one of an impingement dryer and an IR drying unit.

49. (Withdrawn) The arrangement of claim 39, further comprising at least one film press arranged in a running direction (L) of the paper web upstream from at least one of said at least one precalendering apparatus and said at least one coating apparatus.

50. (Withdrawn) The arrangement of claim 39, wherein the arrangement forms a unit with a paper machine.

51. (Withdrawn) The arrangement of claim 39, wherein nether a smoothing nor a calendering apparatus is arranged, in a running direction L of the paper web, upstream from said precalendering apparatus and said coating apparatus.

52. A method for producing a wood-free, coated, matte or semi-matte paper web, comprising the steps of:

precalendering the paper web by means of at least one device for precalendering;

coating the paper web after the precalendering step on at least one side of the paper web by means of at least one device for the application of liquid or pasty application medium; and

drying the paper web by means of at least one device for drying, after the paper web has passed through said at least one device for the application of liquid or pasty application medium in a running direction (L) of the paper web, the paper web is no longer led through any further smoothing or calendering device, and the wood-free coated paper web is produced having a roughness in the range from 0.8-3.9 μm PPS (Parker Print Surf) and a gloss in the range from 3-35% TAPPI 75° (Specular Gloss of Paper and Paperboard at 75°).

IX. EVIDENCE APPENDIX

No additional evidence is being provided by the Appellants at this time.

X. RELATED PROCEEDINGS APPENDIX

No related proceedings are known to the Appellants.